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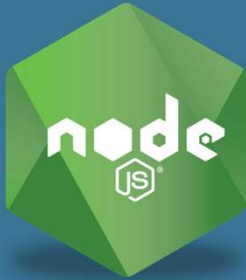
**PART – 5**



**MySQL**  
Crash Course




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**Crash Course**


## Contents

- **Introduction to MySQL**
- MySQL Installation
- MySQL Connection in NodeJS
- SQL Hands on





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# Introduction to MySQL

- **RDBMS** stands for Relational Database Management System.
- **RDBMS is the basis for SQL**, and for all modern database systems such as MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.
- The data in RDBMS is stored in database objects called tables. A table is a collection of related data entries and it consists of columns and rows.
- **SQL** stands for Structured Query Language
- **SQL** is a standard language for storing, manipulating and retrieving data in databases.



Databases

col1	col2	col3	col4	col5
row1				
row2				
row3				
row4				
row5				

Table



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# MySQL Installation

There are several ways to install MySQL.

1. **MySQL Installer**  
<https://dev.mysql.com/downloads/installer/>  
(OR)
  2. **XAMPP has MySQL server.**  
<https://www.apachefriends.org/download.html>
- ✓ Download any of the above software and install them and run. By default MySQL will run on port 3306.
  - ✓ Any one MySQL can be run at a time, more than one servers can't be run. If you update port, then you can use more than one servers, but it's not recommended.



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# MySQL Connection in NodeJS

1. Install mysql using below command
  - **npm install mysql**
2. import mysql
3. Create Connection for mysql
4. Check Connection is established or not.
5. Once database is created, change the connection configuration.



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## SQL Hands on

- Create and Drop Database.
- Create, Alter, Truncate and Drop Table.
- Constraints
  - ☐ Primary key
  - ☐ Unique
  - ☐ Foreign key
  - ☐ Default
  - ☐ Auto Increment



Databases

col1	col2	col3	col4	col5
row1				
row2				
row3				
row4				
row5				

Table-2

col1	col2	col3	col4	col5
row1				
row2				
row3				
row4				
row5				

Table-1



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## SQL Hands on

### CRUD Operations:

- Insert
- Select
- SQL Injection and Protection
- Update
- Delete



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## SQL Hands on

### SQL Injection and Protection:

➤ SQL Injection can happen while taking the inputs from users.  
Example: Username, Password etc.,

1. SQL Injection based on `1=1` Always true.
2. SQL Injection based on `""=""` Always true.
3. SQL Injection based on Batched SQL Statements.

### Protection:

1. Use SQL Parameters for protection
2. ? (Question mark symbol and respective values)
3. `mysql.escape` for the parameters.



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## SQL Hands on

### CRUD Operations:

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PART – 6

Next part

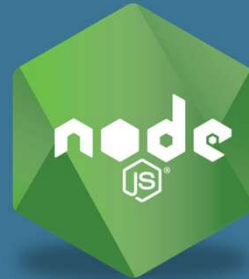
➤ Routes

➤ Models

➤ Controllers







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😊 The expert in anything was once a beginner 😊




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